

## WHAT IS CLAIMED IS:

1. A digital video reproduction method for at least reproducing image based on video contents and metadata, wherein

5       said video contents include an event scene, wherein said event scene is peculiar to a motion picture;

      said metadata comprises at least event information data having a designation of a starting position and contents of said event scene; and

10       said digital video reproduction method comprises the steps of using said event information data and reproducing an image from said event scene selected by a spectator.

15       2. The digital video reproduction method according to claim 1, wherein said metadata includes information on reproduction time related to video contents, wherein said digital video reproduction method comprises the steps of:

20       displaying a timeline on a display apparatus screen as a time bar during reproduction of said image or upon an operation by a spectator at a time of starting reproduction, wherein said time bar corresponds to a reproduction time of video contents, and said video contents are based on said reproduction time;

      displaying an icon corresponding to said event scene on a starting position of said event scene on said time bar, wherein said displaying is based on said event information data; and

25       reproduction of image from a starting position of said event scene corresponding to said icon, wherein said icon is a icon selected by a spectator.

30       3. The digital video reproduction method according to claim 1, wherein when recognition of said icon by a spectator is difficult when all icons corresponding to said event scene included in said video contents are displayed on said time bar, wherein said time bar corresponds to an entire

reproduction time of said video contents, said digital video reproduction method further comprises the steps of:

displaying a portion of said time bar as an expanded time bar, wherein said portion of said time bar includes a selected position on said time bar;

5 and

displaying an icon on said expanded time bar, wherein said icon corresponds to an event scene included in said portion of said time bar.

4. The digital video reproduction method according to claim 1, wherein

10 when recognition of said icon by a spectator is difficult when all icons corresponding to said event scene included in said video contents are displayed on said time bar, wherein said time bar corresponds to an entire reproduction time of said video contents, said digital video reproduction method further comprises the steps of:

15 determination of a selected reproduction time partition, wherein said reproduction time partition is selected from a timeline corresponding to an entire reproduction time;

displaying a scrolling time bar, wherein said scrolling time bar corresponds to said selected reproduction time partition;

20 displaying said icon on said scrolling time bar, wherein said icon corresponds to an event scene included in said selected reproduction time partition;

scrolling said selected reproduction time partition, wherein a direction of said scrolling is designated by a spectator;

25 displaying said scrolling time bar corresponding to a reproduction time partition after said scrolling; and

displaying an icon corresponding to an event scene included in said reproduction time partition after scrolling.

30 5. The digital video reproduction method according to claim 1, wherein

when recognition of said icon by a spectator is difficult when all icons corresponding to said event scene included in said video contents are

displayed on said time bar, wherein said time bar corresponds to an entire reproduction time of said video contents, said digital video reproduction method further comprises the steps of:

splitting and displaying said time bar in a plurality of non linear partitions, wherein a time density of said displaying is set minimum for a partition selected by a spectator and maximum for a partition located far from said selected partition; and

displaying an icon corresponding to an event scene included in each of said partitions, wherein said icon is displayed only when said icon does not overlap with another icon when displayed.

6. A digital video reproducing apparatus, comprising:

a storage means for storing video contents and metadata, wherein

said video contents include an event scene, wherein said event scene is peculiar to a motion picture; and

said metadata comprises at least event information data having a designation of a starting position and contents of said event scene; and

a means for controlling image reproduction based on said video contents and said metadata, wherein said means for controlling image at least reproduces image; wherein

said video reproducing apparatus connected to a display apparatus includes said means for controlling image reproduction using said event information data and reproducing image from an event scene selected by a spectator.

7. The digital video reproducing apparatus according to claim 6, wherein each of said event information data includes an attribute related to said event scene;

said digital video reproducing apparatus has a search means for searching an event information data having said attribute, wherein said attribute is selected from all event information data stored in said storage; and

said means for controlling image reproduction reproduces image from an event scene corresponding to an event information data, wherein said event information data is selected by a spectator from said event information data searched by said search means.

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8. The digital video reproducing apparatus according to claim 6, wherein said metadata includes reproduction time information related to video contents;

10 said digital video reproducing apparatus comprises a means for displaying a secondary image, wherein during reproduction of said image or upon operation by a spectator, said means for displaying the secondary image displays:

15 a timeline on a display apparatus screen as a time bar based on said reproduction time information, wherein said timeline corresponds to a reproduction time of video contents; and

an icon on a starting position of said event scene on the time bar based on said event information data, wherein said icon corresponds to said event scene; and

20 said means for controlling image reproduction reproduces image from a starting position of said event scene, said event scene corresponding to said icon selected by a spectator.

25 9. The digital video reproducing apparatus according to claim 8, wherein each of said event information data includes an attribute related to said event scene;

said digital video reproducing apparatus has a search means for searching an event information data having said attribute, wherein said attribute is selected from all event information data stored in said storage; and

30 said means for controlling image reproduction reproduces image from an event scene corresponding to an event information data, wherein said event information data is selected by a spectator from said event information

data searched by said search means.

10. The digital video reproducing apparatus according to claim 8, wherein  
when recognition of said icon by a spectator is difficult when all icons  
5 corresponding to said event scene included in said video contents are  
displayed on said time bar, wherein said time bar corresponds to an entire  
reproduction time of said video contents, said means for displaying the  
secondary image displays:

10 a portion of said time bar as an expanded time bar, wherein said  
portion of said time bar includes a selected position on said time bar;  
and

an icon on said expanded time bar, wherein said icon corresponds  
to an event scene included in said portion of said time bar.

15 11. The digital video reproducing apparatus according to claim 10, wherein  
each of said event information data includes an attribute related to said  
event scene;

20 said digital video reproducing apparatus has a search means for  
searching an event information data having said attribute, wherein said  
attribute is selected from all event information data stored in said storage;  
and

25 said means for controlling image reproduction reproduces image from  
an event scene corresponding to an event information data, wherein said  
event information data is selected by a spectator from said event information  
data searched by said search means.

12. The digital video reproducing apparatus according to claim 8, wherein  
when recognition of said icon by a spectator is difficult when all icons  
30 corresponding to said event scene included in said video contents are  
displayed on said time bar, wherein said time bar corresponds to an entire  
reproduction time of said video contents, said means for displaying the  
secondary image:

determines a selected reproduction time partition, wherein said reproduction time partition is selected from a timeline corresponding to an entire reproduction time;

5 displays a scrolling time bar, wherein said scrolling time bar corresponds to said selected reproduction time partition;

displays said icon on said scrolling time bar, wherein said icon corresponds to an event scene included in said selected reproduction time partition;

10 scrolls said selected reproduction time partition, wherein a direction of scrolling is designated by a spectator;

displays said time bar, wherein said time bar corresponds to a reproduction time partition after said scrolling; and

displays an icon, wherein said icon corresponds to an event scene included in said reproduction time partition after scrolling.

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13. The digital video reproducing apparatus according to claim 12, wherein each of said event information data includes an attribute related to said event scene;

20 said digital video reproducing apparatus has a search means for searching an event information data having said attribute, wherein said attribute is selected from all event information data stored in said storage; and

25 said means for controlling image reproduction reproduces image from an event scene corresponding to an event information data, wherein said event information data is selected by a spectator from said event information data searched by said search means.

14. The digital video reproducing apparatus according to claim 8, wherein when recognition of said icon by a spectator is difficult when all icons  
30 corresponding to said event scene included in said video contents are displayed on said time bar, wherein said time bar corresponds to an entire reproduction time of said video contents, said means for displaying the

secondary image:

splits and displays said time bar in a plurality of non linear partitions, wherein a time density is set minimum for a partition selected by a spectator and maximum for a partition located far from said selected partition; and

displays an icon corresponding to an event scene included in each of said partitions, wherein said icon is displayed only when said icon does not overlap with another icon when displayed.

15. The digital video reproducing apparatus according to claim 14, wherein each of said event information data includes an attribute related to said event scene;

said digital video reproducing apparatus has a search means for searching an event information data having said attribute, wherein said attribute is selected from all event information data stored in said storage; and

said means for controlling image reproduction reproduces image from an event scene corresponding to an event information data, wherein said event information data is selected by a spectator from said event information data searched by said search means.

16. A digital video reproducing apparatus, comprising a communication means for receiving video contents and metadata, wherein

said video contents include an event scene, wherein said event scene is peculiar to a motion picture; and

said metadata comprises at least event information data having a designation of a starting position and contents of said event scene; and a means for controlling image reproduction for at least reproducing image based on said video contents and said metadata; wherein

said video reproducing apparatus connected to a display apparatus includes said means for controlling image reproduction using said event

information data and reproducing image from an event scene selected by a spectator.

17. The digital video reproducing apparatus according to claim 16, wherein  
5 said metadata includes reproduction time information related to video contents;

said digital video reproducing apparatus comprises a means for displaying a secondary image, wherein during reproduction of said image or upon operation by a spectator, said means for displaying the secondary  
10 image displays:

a timeline on a display apparatus screen as a time bar based on said reproduction time information, wherein said timeline corresponds to a reproduction time of video contents; and

an icon on a starting position of said event scene on the time bar  
15 based on said event information data, wherein said icon corresponds to said event scene; and

said means for controlling image reproduction reproduces image from a starting position of said event scene, said event scene corresponding to said icon selected by a spectator.

18. The digital video reproducing apparatus according to claim 17, wherein  
when recognition of said icon by a spectator is difficult when all icons corresponding to said event scene included in said video contents are displayed on said time bar, wherein said time bar corresponds to an entire  
25 reproduction time of said video contents, said means for displaying the secondary image displays:

a portion of said time bar as an expanded time bar, wherein said portion of said time bar includes a selected position on said time bar; and

30 an icon on said expanded time bar, wherein said icon corresponds to an event scene included in said portion of said time bar.



19. The digital video reproducing apparatus according to claim 17, wherein when recognition of said icon by a spectator is difficult when all icons corresponding to said event scene included in said video contents are displayed on said time bar, wherein said time bar corresponds to an entire reproduction time of said video contents, said means for displaying the secondary image:

determines a selected reproduction time partition, wherein said reproduction time partition is selected from a timeline corresponding to an entire reproduction time;

displays a scrolling time bar, wherein said scrolling time bar corresponds to said selected reproduction time partition;

displays said icon on said scrolling time bar, wherein said icon corresponds to an event scene included in said selected reproduction time partition;

scrolls said selected reproduction time partition, wherein a direction of scrolling is designated by a spectator;

displays said time bar, wherein said time bar corresponds to a reproduction time partition after said scrolling; and

displays an icon, wherein said icon corresponds to an event scene included in said reproduction time partition after scrolling.

20. The digital video reproducing apparatus according to claim 17, wherein when recognition of said icon by a spectator is difficult when all icons corresponding to said event scene included in said video contents are displayed on said time bar, wherein said time bar corresponds to an entire reproduction time of said video contents, said means for displaying the secondary image:

splits and displays said time bar in a plurality of non linear partitions, wherein a time density is set minimum for a partition selected by a spectator and maximum for a partition located far from said selected partition; and

displays an icon corresponding to an event scene included in each

of said partitions, wherein said icon is displayed only when said icon does not overlap with another icon when displayed.

21. A digital video recording and reproducing apparatus, including  
5 a means for controlling image reproduction for at least reproducing image based on video contents and metadata, wherein

said video contents including an event scene, wherein said event scene is peculiar to a motion picture; and

10 said metadata comprising at least event information data, wherein said event information data have a designation of a starting position and contents of said event scene; and

said digital video recording and reproducing apparatus connected to a display apparatus, comprises

a contents input means for inputting said video contents;

15 an event information data input means for inputting said event information data; and

a storage means for storing said video contents and said event information data; wherein

20 said event information data is inputted as added to said video contents or separated from said video contents; and

said means for controlling image reproduction uses said event information data and reproduces image from said event scene selected by a spectator.

25 22. The digital video recording and reproducing apparatus according to claim 21, wherein

said metadata includes reproduction time information related to video contents;

30 said digital video reproducing apparatus comprises a means for displaying a secondary image, wherein during reproduction of said image or upon operation by a spectator, said means for displaying the secondary image displays:

a timeline on a display apparatus screen as a time bar based on said reproduction time information, wherein said timeline corresponds to a reproduction time of video contents; and

an icon on a starting position of said event scene on said time bar based on said event information data, wherein said icon corresponds to said event scene; and

said means for controlling image reproduction reproduces image from a starting position of said event scene, said event scene corresponding to said icon selected by a spectator.

23. The digital video recording and reproducing apparatus according to claim 22, wherein

when recognition of said icon by a spectator is difficult when all icons corresponding to said event scene included in said video contents are displayed on said time bar, wherein said time bar corresponds to an entire reproduction time of said video contents, said means for displaying the secondary image displays:

a portion of said time bar as an expanded time bar, wherein said portion of said time bar includes a selected position on said time bar; and

an icon on said expanded time bar, wherein said icon corresponds to an event scene included in said portion of said time bar.

24. The digital video recording and reproducing apparatus according to claim 22, wherein

when recognition of said icon by a spectator is difficult when all icons corresponding to said event scene included in said video contents are displayed on said time bar, wherein said time bar corresponds to an entire reproduction time of said video contents, said means for displaying the secondary image:

determines a selected reproduction time partition, wherein said reproduction time partition is selected from a timeline corresponding to

an entire reproduction time;

displays a scrolling time bar, wherein said scrolling time bar corresponds to said selected reproduction time partition;

displays said icon on said scrolling time bar, wherein said icon corresponds to an event scene included in said selected reproduction time partition;

scrolls said selected reproduction time partition, wherein a direction of scrolling is designated by a spectator;

displays said time bar, wherein said time bar corresponds to a reproduction time partition after said scrolling; and

displays an icon, wherein said icon corresponds to an event scene included in said reproduction time partition after scrolling.

25. The digital video recording and reproducing apparatus according to claim 22, wherein

when recognition of said icon by a spectator is difficult when all icons corresponding to said event scene included in said video contents are displayed on said time bar, wherein said time bar corresponds to an entire reproduction time of said video contents, said means for displaying the secondary image:

splits and displays said time bar in a plurality of non linear partitions, wherein a time density is set minimum for a partition selected by a spectator and maximum for a partition located far from said selected partition; and

displays an icon corresponding to an event scene included in each of said partitions, wherein said icon is displayed only when said icon does not overlap with another icon when displayed.